General

Guideline Title

Shoulder dystocia.

Bibliographic Source(s)

Royal College of Obstetricians and Gynaecologists (RCOG). Shoulder dystocia. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2012 Mar. 18 p. (Green-top guideline; no. 42). [107 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Royal College of Obstetricians and Gynaecologists (RCOG). Shoulder dystocia. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2005 Dec. 13 p. (Guideline; no. 42). [63 references]

Recommendations

Major Recommendations

In addition to these evidence-based recommendations, the guideline development group also identifies points of best clinical practice in the original guideline document.

Classification of evidence levels (1++ to 4) and grades of recommendations (A-D) are defined at the end of the "Major Recommendations" field.

Prediction

Can Shoulder Dystocia Be Predicted?

D - Clinicians should be aware of existing risk factors in labouring women and must always be alert to the possibility of shoulder dystocia.

C - Risk assessments for the prediction of shoulder dystocia are insufficiently predictive to allow prevention of the large majority of cases.

Prevention of Shoulder Dystocia

Management of Suspected Fetal Macrosomia

Does Induction of Labour Prevent Shoulder Dystocia?

D - Induction of labour does not prevent shoulder dystocia in non-diabetic women with a suspected macrosomic fetus.

B - Induction of labour at term can reduce the incidence of shoulder dystocia in women with gestational diabetes.

Should Elective Caesarean Section Be Recommended for Suspected Fetal Macrosomia to Prevent Brachial Plexus Injury?

D - Elective caesarean section should be considered to reduce the potential morbidity for pregnancies complicated by pre-existing or gestational diabetes, regardless of treatment, with an estimated fetal weight of greater than 4.5 kg.

What Are the Recommendations for Future Pregnancy?

What Is the Appropriate Mode of Delivery for the Woman with a Previous Episode of Shoulder Dystocia?

D - Either caesarean section or vaginal delivery can be appropriate after a previous shoulder dystocia. The decision should be made jointly by the woman and her carers.

Management of Shoulder Dystocia

How Is Shoulder Dystocia Diagnosed?

D - Routine traction in an axial direction can be used to diagnose shoulder dystocia but any other traction should be avoided.

How Should Shoulder Dystocia Be Managed?

D - Fundal pressure should not be used.

D - McRoberts' manoeuvre is a simple, rapid and effective intervention and should be performed first.

D - Suprapubic pressure should be used to improve the effectiveness of the McRoberts' manoeuvre.

D - An episiotomy is not always necessary.

Risk Management

Training

What Are the Recommendations for Training?

D - All maternity staff should participate in should dystocia training at least annually.

Definitions:

Grades of Recommendations

A - At least one meta-analysis, systematic review or randomised controlled trial rated as 1++, and directly applicable to the target population; *or*

A systematic review of randomised controlled trials or a body of evidence consisting principally of studies rated as 1+, directly applicable to the target population and demonstrating overall consistency of results

B - A body of evidence including studies rated as 2++ directly applicable to the target population, and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 1++ or 1+

C - A body of evidence including studies rated as 2+ directly applicable to the target population and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 2++

D - Evidence level 3 or 4; *or*

Extrapolated evidence from studies rated as 2+

Good Practice Point - Recommended best practice based on the clinical experience of the guideline development group

Classification of Evidence Levels

1++ High-quality meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a very low risk of bias

1+ Well-conducted meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a low risk of bias

1- Meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a high risk of bias

2++ High-quality systematic reviews of case–control or cohort studies or high-quality case–control or cohort studies with a very low risk of confounding, bias, or chance and a high probability that the relationship is causal

2+ Well-conducted case–control or cohort studies with a low risk of confounding, bias, or chance and a moderate probability that the relationship is causal

2- Case–control or cohort studies with a high risk of confounding, bias, or chance and a significant risk that the relationship is not causal

3 Non-analytical studies; e.g., case reports, case series

4 Expert opinion

Clinical Algorithm(s)

An algorithm for the Management of Shoulder Dystocia is provided in Appendix 2 of the original guideline document.

Scope

Disease/Condition(s)

Shoulder dystocia

Note: The guideline does not cover primary prevention of fetal macrosomia associated with gestational diabetes mellitus.

Guideline Category

Management

Prevention

Risk Assessment

Clinical Specialty

Family Practice

Nursing

Obstetrics and Gynecology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

- To review the current evidence regarding the possible prediction, prevention, and management of shoulder dystocia
- To provide guidance for skill drills for the management of shoulder dystocia (practical manoeuvres are not described in detail)

Target Population

Women in labour whose deliveries are at risk for or complicated by shoulder dystocia, including women with gestational diabetes mellitus

Interventions and Practices Considered

1. Consideration of existing risk factors in labouring women for shoulder dystocia
2. Induction of labour to prevent shoulder dystocia in women with gestational diabetes
3. Elective cesarean delivery for suspected fetal macrosomia in women with gestational diabetes
4. Deciding on appropriate mode of delivery for the woman with a previous episode of shoulder dystocia
5. Management of shoulder dystocia
    - Ancillary manoeuvres including McRoberts' manoeuvre and suprapubic pressure
    - Avoidance of fundal pressure during delivery
    - Use of an episiotomy (not always necessary)
6. Risk management including maternity staff training in shoulder dystocia

Major Outcomes Considered

- Predictive value of risk factors for shoulder dystocia
- Maternal and neonatal morbidity (e.g., uterine rupture, nerve avulsion, brachial plexus injury) and mortality

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

This Royal College of Obstetricians and Gynaecologists (RCOG) guideline was revised in accordance with standard methodology for producing RCOG Green- top Guidelines (see the "Availability of Companion Documents" field). A search was performed in the OVID database, which included Medline, Embase, the Cochrane Database of Systematic Reviews, the Cochrane Control Register of Controlled Trials (CENTRAL), the Database of Abstracts of Reviews and Effects (DARE), the ACP Journal Club, the National Guidelines Clearing House and the Confidential Enquiry into Maternal and Child Health (CEMACH) reports. The search was restricted to articles published between January 1980 and May 2011 and limited to humans and the English language. Search terms included: 'shoulder dystocia', 'macrosomia', 'McRoberts' manoeuvre', 'obstetric manoeuvres', 'complications, labour/delivery', 'brachial plexus injury', 'Erb's palsy', 'Klumpke's palsy', 'symphysiotomy', 'Zavanelli manoeuvre', 'skill drills', 'rehearsal of obstetric emergencies' and 'medical simulation'. Reference lists of the articles identified were hand-searched for additional articles and some experts within the field were contacted. Relevant key original papers published prior to 1980 were also obtained and are referenced within this guideline.

Owing to the emergency nature of the condition, most published series examining procedures for the management of shoulder dystocia are retrospective case series or case reports. Areas lacking evidence are annotated as good practice points.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Classification of Evidence Levels

1++ High-quality meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a very low risk of bias

1+ Well-conducted meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a low risk of bias

1- Meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a high risk of bias

2++ High-quality systematic reviews of case–control or cohort studies or high-quality case–control or cohort studies with a very low risk of confounding, bias, or chance and a high probability that the relationship is causal

2+ Well-conducted case–control or cohort studies with a low risk of confounding, bias, or chance and a moderate probability that the relationship is causal

2- Case–control or cohort studies with a high risk of confounding, bias, or chance and a significant risk that the relationship is not causal

3 Non-analytical studies; e.g., case reports, case series

4 Expert opinion

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Reviewing and Grading of Evidence

Once the evidence has been collated for each clinical question it needs to be appraised and reviewed (refer to section 3 in "Development of RCOG Green-top guidelines: producing a clinical practice guideline" for information on the formulation of the clinical questions; see the "Availability of Companion Documents" field). For each question, the study type with least chance of bias should be used. If available, randomised controlled trials (RCTs) of suitable size and quality should be used in preference to observational data. This may vary depending on the outcome being examined.

The level of evidence and the grade of the recommendations used in this guideline originate from the guidance by the Scottish Intercollegiate Guidelines Network (SIGN) Grading Review Group, which incorporates formal assessment of the methodological quality, quantity, consistency, and applicability of the evidence base. The methods used to appraise individual study types are available from the SIGN Web site . An objective appraisal of study quality is essential, but paired reviewing by guideline leads may be impractical because of resource constraints.

Once evidence has been collated and appraised, it can be graded. A judgement on the quality of the evidence will be necessary using the grading system (see the "Rating Scheme for the Strength of the Evidence" field). Where evidence is felt to warrant 'down-grading', for whatever reason, the rationale must be stated. Evidence judged to be of poor quality can be excluded. Any study with a high chance of bias (either 1– or 2–) will be excluded from the guideline and recommendations will not be based on this evidence. This prevents recommendations being based on poor-quality

RCTs when higher-quality observational evidence is available.

Methods Used to Formulate the Recommendations

Expert Consensus

Informal Consensus

Description of Methods Used to Formulate the Recommendations

Guideline Development

The development of guidelines involves more than the collation and reviewing of evidence. Even with high-quality data from systematic reviews of randomised controlled trials, a value judgement is needed when comparing one therapy with another. This will therefore introduce the need for consensus.

Royal College of Obstetricians and Gynaecologists (RCOG) Green-top guidelines are drafted by nominated developers, in contrast to other guideline groups such as the National Institute for Health and Clinical Excellence (NICE) and the Scottish Intercollegiate Guidelines Network (SIGN), who use larger guideline development groups. Equally, in contrast to other guideline groups, the topics chosen for development as Green-top guidelines are concise enough to allow development by a smaller group of individuals.

In agreeing the precise wording of evidence-based guideline recommendations and in developing consensus-based 'good practice points', the Guidelines Committee (GC) will employ an informal consensus approach through group discussion. In line with current methodologies, the entire development process will follow strict guidance and be both transparent and robust. The RCOG acknowledges that formal consensus methods have been described but these require further evaluation in the context of clinical guideline development. It is envisaged that this will not detract from the rigor of the process but prevent undue delays in development.

Rating Scheme for the Strength of the Recommendations

Grades of Recommendations

A - At least one meta-analysis, systematic review or randomised controlled trial rated as 1++, and directly applicable to the target population; *or*

A systematic review of randomised controlled trials or a body of evidence consisting principally of studies rated as 1+, directly applicable to the target population and demonstrating overall consistency of results

B - A body of evidence including studies rated as 2++ directly applicable to the target population, and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 1++ or 1+

C - A body of evidence including studies rated as 2+ directly applicable to the target population and demonstrating overall consistency of results; *or*

Extrapolated evidence from studies rated as 2++

D - Evidence level 3 or 4; *or*

Extrapolated evidence from studies rated as 2+

Good Practice Point - Recommended best practice based on the clinical experience of the guideline development group

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Following discussion in the Guidelines Committee (GC), each Green-top guideline is formally peer reviewed. At the same time, the draft guideline is published on the Royal College of Obstetricians and Gynaecologists (RCOG) Web site for further peer discussion before final publication.

All comments will be collated by the RCOG and tabulated for consideration by the guideline leads. Each comment will require discussion. Where comments are rejected then justification will need to be made. Following this review, the document will be updated and the GC will then review the revised draft and the table of comments.

Once the GC signs-off on the guideline, it is submitted to the Standards Board for approval before final publication.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management of deliveries at risk of or complicated by shoulder dystocia and to improve maternal and neonatal outcomes

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

- These recommendations are not intended to dictate an exclusive course of management or treatment. They must be evaluated with reference to individual patient needs, resources and limitations unique to the institution and variations in local populations. It is hoped that this process of local ownership will help to incorporate these guidelines into routine practice. Attention is drawn to areas of clinical uncertainty where further research might be indicated.
- The Royal College of Obstetricians and Gynaecologists (RCOG) produces guidelines as an educational aid to good clinical practice. They present recognised methods and techniques of clinical practice, based on published evidence, for consideration by obstetricians and gynaecologists and other relevant health professionals. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the doctor or other attendant in the light of clinical data presented by the patient and the diagnostic and treatment options available within the appropriate health services. This means that RCOG Guidelines are unlike protocols or guidelines issued by employers, as they are not intended to be prescriptive directions defining a single course of management. Departure from the local prescriptive protocols or guidelines should be fully documented in the patient's case notes at the time the relevant decision is taken.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Audit Criteria/Indicators

Chart Documentation/Checklists/Forms

Clinical Algorithm

Patient Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Staying Healthy

IOM Domain

Effectiveness

Safety

Timeliness

Identifying Information and Availability

Bibliographic Source(s)

Royal College of Obstetricians and Gynaecologists (RCOG). Shoulder dystocia. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2012 Mar. 18 p. (Green-top guideline; no. 42). [107 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2005 Dec (revised 2012 Mar)

Guideline Developer(s)

Royal College of Obstetricians and Gynaecologists - Medical Specialty Society

Source(s) of Funding

Royal College of Obstetricians and Gynaecologists

Guideline Committee

Guidelines Committee

Composition of Group That Authored the Guideline

Authors: Dr J Crofts MRCOG, Bristol; Professor TJ Draycott MRCOG, Bristol; Dr I Montague FRCOG, Plymouth; Ms C Winter, Midwife, Bristol; Mr R Fox FRCOG, Taunton.

Peer Reviewers: BMFMS; Consumers' Forum; Erb's Palsy Group; RCM; Dr HM Cameron FRCOG, Sunderland; Mr D I Fraser FRCOG, Norwich; Mr IZ MacKenzie FRCOG, Oxford; Mr KT Moriarty MRCOG, Wirral, Merseyside; Mr DJ Tuffnell FRCOG, Bradford.

Guidelines Committee Lead Reviewers: Dr R Ashe FRCOG, County Antrim, Northern Ireland and Mr M Griffiths FRCOG, Luton.

Financial Disclosures/Conflicts of Interest

Conflicts of interest: none declared.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Royal College of Obstetricians and Gynaecologists (RCOG). Shoulder dystocia. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2005 Dec. 13 p. (Guideline; no. 42). [63 references]

Guideline Availability

Electronic copies: Available from the Royal College of Obstetricians and Gynaecologists (RCOG) Web site .

Availability of Companion Documents

The following are available:

- Development of RCOG Green-top guidelines: policies and processes. Clinical Governance Advice No 1a. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2006 Nov. 6 p. Electronic copies: Available from the Royal College of Obstetricians and Gynaecologists (RCOG) Web site .
- Development of RCOG Green-top guidelines: producing a scope. Clinical Governance Advice No 1b. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2006 Nov. 4 p. Electronic copies: Available from the RCOG Web site .
- Development of RCOG Green-top guidelines: producing a clinical practice guideline. Clinical Governance Advice No 1c. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2006 Nov. 13 p. Electronic copies: Available from the RCOG Web site

.

- Development of RCOG Green-top guidelines: consensus methods for adaptation of Green-top guidelines. Clinical Governance Advice No 1d. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2010 Feb. 9 p. Electronic copies: Available from the RCOG Web site .

Additionally, suggested audit topics can be found in section 8 and an example "Shoulder Dystocia Documentation" form is provided in Appendix 3 of the original guideline document .

Patient Resources

The following is available:

- A difficult birth: what is shoulder dystocia? Information for you. 2007 Nov. 5 p. Available from the Royal College of Obstetricians and Gynaecologists (RCOG) Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI on March 10, 2006. The information was verified by the guideline developer on April 26, 2006. This NGC summary was updated by ECRI Institute on July 12, 2012. The updated information was verified by the guideline developer on September 25, 2012.

Copyright Statement

Disclaimer

NGC Disclaimer

The National Guideline Clearinghouseâ„¢ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion-criteria.aspx.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.